Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition for Rulemaking to Reform the Commission's Regulatory Framework for the Terrestrial Use of the Big LEO MSS Band	)	RM-11685
	)	
Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525–1559 MHz and 1626.5–2660.5 MHz, 1610–1626.5 MHz and 2483.5–2500 MHz, and 2000–2020 and 2180–2200 MHz	)	ET Docket No. 10-142
	)	
Amendment of Parts 1, 21, 73, 74 and 101 Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advance Services in the 2150–2162 and 2500–2690 MHz Bands	)	WT Docket 03-66

To: The Commission

EIBASS Comments To the Globalstar Petition for Rulemaking

1. Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (EIBASS) hereby respectfully submits its comments in response to the November 30, 2012, Public Notice 2971 regarding a November 13, 2012, Petition for Rulemaking submitted by Globalstar, Inc. (Globalstar). That petition asks the Commission to create a new radio service that Globalstar refers to as the Advanced Wireless Services 5/Terrestrial Low-Power Service (AWS-5/TLPS). In effect, another commercial mobile radio service (CMRS) band. Globalstar proposes using 2,483.5–2,495 MHz for AWS-5/TLPS. Although the public notice was dated November 30, it did not appear in the Daily Digest until December 3, 2012, and the text of the Petition did not appear in the Electronic Comment Filing System (ECFS) until December 12, 2012. However, in response to requests for additional time by EIBASS and the WiFi Alliance, on December 14 the Commission issued a public notice extending the comment deadline to January 14, 2013.[1] Therefore these EIBASS comments are timely filed.

[1] DA 12-2026.

EIBASS Comments To RM-11685: Globalstar Petition for Rulemaking for Advanced Wireless Services 5/Terrestrial Low-Power Service (AWS-5/TLPS)

I. Inconvenient Truths

2. The Globalstar Petition claims that it has "exclusive terrestrial use" of 2,483.5–2,495 MHz.[2] Globalstar is mistaken. There are indefinitely grandfathered, co-primary TV Broadcast Auxiliary Service (BAS) stations still operating on former TV BAS Channel A10 at 2,483.5–2,500 MHz. This inconvenient truth has been pointed out to Globalstar many times by the EIBASS and by the Society of Broadcast Engineers, Inc. (SBE).[3] Yet the Globalstar Petition fails to mention the conflict with grandfathered TV BAS Channel A10 anywhere in its 82-page text. Indeed, TV BAS operations are mentioned only once, at page 33 of the Petition, and then only with respect to the 2.5 GHz TV BAS band in general, and only in the context of out-of-band emissions (OOBE) from the proposed AWS-5/TLPS operations causing interference to adjacent-channel TV BAS operations (*i.e.*, TV BAS Channel A9, 2,467–2,483.5 MHz). There is not a whisper about the far more serious co-channel interference problem with TV BAS Channel A10.

3. These "inconvenient truths" are as follows:

3A. Operation on TV BAS Channel A10 is co-primary with MSS on an indefinitely "grandfathered" basis. See the July 25, 1985, Report and Order (R&O) to General Docket 84-869. This co-primary status was re-affirmed in the July 16, 2004, ET Docket 00-258 Fourth R&O.[4] See also non-federal government footnote NG147, in Part 2 of the FCC Rules, and Section 74.602(a)(2) of the TV BAS rules.

3B. Under the "emerging technologies" rulemaking, ET Docket 92-9, a newcomer user (*e.g.*, MSS ATC) is obligated to make an incumbent user (*e.g.*, grandfathered Channel A10 TV BAS stations) "whole."[5]

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2 Globalstar Petition at page iii.

3 In its March 1, 2005, E970381 modification application, FCC File Number SES-MODINTR2005-00456, Globalstar proposed to deploy S-Band MSS ATC base stations in the top-ten U.S. cities. On May 16, 2005, SBE filed an informal objection to the Globalstar application, pointing out that of the top-ten cities, seven had grandfathered TV BAS Channel A10 operations, where co-channel MSS ATC operation would be unlikely to be able to be successfully frequency coordinated; namely,

Chicago	Los Angeles	Philadelphia	Washington, DC.
Detroit	New York	San Francisco	

4 July 16, 2004, ET Docket Fourth R&O, at paragraph 26.

5 August 13, 1993, ET Docket 92-9 Second R&O, at paragraph 3. Also the August 13, 1993, ET Docket 92-9 Third R&O and Memorandum, Opinion and Order (MO&O), at paragraph 2.

3C. In ET Docket 98-142, concerning 7 GHz Mobile Satellite Service (MSS) downlinks, the Commission re-affirmed that, between co-primary users, the later-in-time station must protect the earlier-in-time station.[6]

3D. In the past Globalstar has argued that there are so few grandfathered TV BAS Channel A10 stations that frequency coordination would allow band sharing.[7] Indeed, according to the Commission's Universal Licensing Service (ULS), there are only seventy grandfathered Channel A10 TV BAS stations still licensed. Fifty-seven are TV Pickup stations, twelve are fixed-link Inter City Relay (ICR) stations, and one is a fixed-link TV Translator Relay station.

3E. While grandfathered A10 stations are not allowed to increase the number of transmitters, the Commission discontinued tracking the number of transmitters authorized by a TV Pickup license at least twenty years ago, and thus there is no means to track the number of grandfathered A10 transmitters that were in use in 1985. Accordingly, a single TV Pickup license authorizes an unlimited number of mobile transmitters.[8] EIBASS further notes that digital emissions have been added to TV Pickup licenses that included A10 grandfather rights, since there was nothing in the 1985 rulemaking[9] establishing those grandfather rights that prohibited a major-change addition of digital modulation.

3F. TV Pickup stations typically operate with multiple transmitters (*i.e.*, multiple electronic news gathering (ENG) trucks or other mobile platforms, some airborne), and use multiple ENG receive-only (ENG-RO) sites. The ENG-RO sites are usually placed near the tops of tall towers, on high-rise buildings, or mountain tops, so as to increase the likelihood that no matter where an ENG truck needs to transmit from in its market, it will have line-of-sight to at least one of the ENG-RO sites. See the SBE comments to IB Docket 02-364, and also to the predecessor IB Docket 01-185.

3G. The Commission has recognized the importance of protecting ENG-RO sites by acting favorably on the September 6, 2005, SBE Petition for Rulemaking to allow TV Pickup licensees

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6 February 7, 2002, ET Docket 98-142 R&O, at paragraph 58.

7 August 25, 2011, Globastar *Opposition to Petition for Reconsideration* of the May 27, 2011, EIBASS *Petition for Reconsideration* of the April 6, 2011, ET Docket 10-142 R&O, at page 4.

8 See Public Notice DA 05-2223, dated July 29, 2005, *Wireless Telecommunications Bureau (WTB) and Media Bureau Announce Licensing Procedures to Facilitate the Transition of BAS, CARS, and LTTS Licenses to the 2025-2110 MHz Band and WTB Addresses SBE Petition for Declaratory Ruling*, at page 5.

9 General Docket 84-69 (R&O dated September 13, 1985).

to show the location and height of their ENG-RO sites to their TV Pickup license, and in a manner that is searchable in the ULS on a frequency/point-radius basis (RM-11308).[10]

3H. Grandfathered TV Pickup stations are in most of the same top-ten metropolitan areas where Globalstar wants to install its S-band MSS ATC base stations, and also, presumably, its now-proposed AWS-5/TLPS operations.[11] It is precisely because of the population concentrations in the top-ten metros that grandfathered licensees continue to heavily use A10, and why Globalstar's suggestion, and unfortunately sometimes the Commission's suggestion, that broadcasters could simply use one of the other nine 2/2.5 GHz TV BAS channels, is so profoundly flawed: In the major metros, 2 GHz TV BAS Channels A1–A7, and 2.5 GHz TV BAS Channels A8 and A9, are already heavily used (assuming A8 and A9 are not being interfered with, as noted later in this document).

3I. Thus, grandfathered TV BAS Channel A10 provides a vital safety valve for 2/2.5 GHz TV BAS operations in markets where grandfathered licenses exist. Broadcasters have been able to use this safety valve as part of voluntary, cooperative, real-time frequency coordination within their user base.[12] The carefully-crafted, delicately balanced and spectrum-efficient frequency coordination process between television stations, Broadcast Network Entities, and Cable Network Entities would be utterly unworkable if it had to contend with a co-channel system of cellular-like MSS ATC base stations, or AWS-5 TLPS operations. Why? Because for MSS ATC/AWS-5/TLPS operations the channel use is triggered by subscribers wishing to make voice and data transmissions. Given the unpredictable nature of ENG operations, with its need to cover breaking news stories, frequency sharing with a cellular-like architecture of base stations and hand-held devices is now, and is likely to remain, totally incompatible.

3J. The suggestion that grandfathered A10 licensees could simply move to a non-grandfathered TV BAS channel defeats the whole purpose of having grandfather rights, undermines the balance of market coordination, and is self-serving. The delicate daily dance of

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10 See April 16, 2008, Public Notice, DA 08-892, *Licensees of Television Pickup Stations Now Have the Option to Identify Their Stationary, Receive-Only Sites on ULS to Aid Coordination with Other Services.*

11 As proposed by Globalstar in its March 1, 2005, E970381 Satellite Radio Service modification application, FCC File Number SES-MOD-INTR2005-00456.

12 The prototype for sharing between broadcasters in the 2 GHz TV BAS band was devised in Los Angeles in 1984, for the Olympic games. The Southern California Frequency Coordinating Committee (SCFCC) worked closely with American Broadcasting Company (ABC) engineers to come up with a way to protect local stations while accommodating an influx of domestic and foreign broadcasters. The prototype, dubbed "The Home Channel Plan", was adopted by the SCFCC for daily use after the 1984 Olympics, and has been in use ever since. Various forms of the "Home Channel Plan" have been adopted for TV BAS real-time coordination in a number of large television markets.

TV ENG real-time coordination between competing TV stations, especially in congested markets, took years to achieve. EIBASS wonders how Globalstar would react to a proposal to withdraw its ET Docket 92-9 Emerging Technologies grandfather rights for use of MSS spectrum without paying a dime in spectrum auction fees, and instead be required to bid at a spectrum auction for those rights, as the Communications Act now requires for all CMRS spectrum use?[13]

3K. In its ET Docket 10-142 comments, Globalstar argued that the Commission has already ruled on the SBE[14] and EIBASS[15] requests to re-farm the 2.5 GHz TV BAS band, citing various Commission proceedings.[16] However, Globalstar avoids citing the last sentence of Paragraph 88 of the March 20, 2008, WT Docket 03-66 *Third Order on Reconsideration and Sixth Memorandum Opinion and Order and Fourth Memorandum Opinion and Order and Second Further Notice of Proposed Rulemaking and Declaratory Ruling*, where the Commission stated, at Paragraph 88:

> 88. *Background.* The new BRS Channel 1 band at 2496-2502 MHz, relocated from the 2150-2156 MHz band, partly overlaps a number of services in the 2483.5-2500 MHz band, including Broadcast Auxiliary Service (BAS) Channel A10 operations at 2483.5-2500 MHz. As an initial matter, we note that **a pending petition for reconsideration filed by the Society of Broadcast Engineers** asks us to adopt a revised band plan for BAS Channels A8–A10 that would remove BAS operations from the 2496–2502 MHz band. **We defer consideration of this matter to a separate decision.**

Thus, the A10 issue is still in play, and Globalstar has overlooked that fact.

3L. Both the Wireless Telecommunications Bureau (WTB) and the Office of Engineering and Technology (OET) found years ago that ENG operations and CMRS could not share spectrum in the same area at the same time. It was for that reason that the Commission re-farmed the 2 GHz TV BAS band, from 1,990–2,110 MHz, to 2,025–2,110 MHz, in the ET Docket 95-18 and WT

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13 Spectrum auctions were added to the Communications Act, at Section 309(j), by the 1993 Omnibus Budget Reconciliation Act, and expanded by the 1997 Balanced Budget Act.

14 September 8, 2004, SBE *Petition for Reconsideration* of the July 16, 2004, IB Docket 02-364 R&O/Fourth R&O and FNPRM; also the May 22, 2006, SBE *Petition for Reconsideration* of the April 27, 2006, IB Docket 02-364, *et al* Order on Reconsideration and Fifth MO&O and Third MO&O and Second R&O..\

15 December 1, 2009, EIBASS *ex parte* comments to IB Docket 02-364; September 15, 2010, comments to ET Docket 10-142; May 27, 2011, EIBASS ET Docket 10-142 *Petition for Reconsideration*; July 8, 2011, EIBASS comments to ET Docket 10-142; September 9, 2011, EIBASS *Reply to Opposition to Globalstar Petition for Reconsideration*; November 17, 2011, EIBASS comments to WC Docket 11-183.

16 August 25, 2011, Globalstar *Opposition to Petition for Reconsideration* of the May 27, 2011, EIBASS *Petition for Reconsideration* of the April 6, 2011, ET Docket 10-142 R&O, at page 5.

Docket 02-55 rulemakings. ENG and CMRS are mutually exclusive uses, in that both involve area-wide mobile operations whose duty cycles are variable. In ET Docket 00-258, the Commission found that TV BAS and advanced wireless services (AWS) similarly could not share the same spectrum in the same area at the same time with TV BAS. The Laws of Physics have not changed so the same mutual exclusivity problem applies here.

3M. In its filings to the ET Docket 10-142, WT Docket 03-66, and other rulemakings, Globalstar has argued that "grandfathered TV BAS facilities operating on Channel A10 can share spectrum and coexist on a co-channel basis at 2,483.5–2,500 MHz."[17] Unexplained by Globalstar is how a cellular-like system of co-channel MSS ATC base stations, whose transmissions would be automatically triggered by subscribers making telephone calls, web surfing, or other data requests, could ever accomplish real-time frequency coordination with mobile and unpredictable ENG operations.

3N. In its November 17, 2011, comments to WC Docket 11-183, involving S-band MSS ATC operations by Open Range, EIBASS documented a case of harmful interference to grandfathered A10 ENG operations in the Chicago TV market, complete with an FCC Enforcement Bureau case report.[18]. Open Range was also causing harmful interference in California as a result of its MSS ATC operations at Sutter Buttes, north of Sacramento. Thus, the incompatibility between S-band MSS ATC and TV BAS was no longer conjecture.

3O. Further, in its comments[19] to the WT Docket 03-66 Fourth FNRPM, Globalstar argued against relaxed out-of-band emissions (OOBE) for Broadband Radio Service (BRS) stations, because of the interference threat to its S-band MSS ATC operations. Globalstar did not entertain the notion of frequency coordination being able to avoid interference between BRS1 base stations and MSS ATC base stations, even though both would be fixed-site stations. Why? Because the MSS handsets that would communicate with MSS ATC base stations are mobile devices, whose location is never known in advance. It is the identical situation for co-channel grandfathered TV BAS Channel A10 ENG operations.

3P. Thus, the only logical solution is to re-farm the 2.5 GHz TV BAS band, like the Commission did for the 2 GHz TV BAS band. This would solve not only the S-band MSS

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17 August 25, 2011, Globalstar *Opposition to Petition for Reconsideration* of the May 27, 2011, EIBASS *Petition for Reconsideration* of the April 6, 2011, ET Docket 10-142 R&O, at page 4.

18 Case Report number EB-11-CG-0015, dated March 25, 2011.

19 July 7, 2011, Globalstar comments, at page 3; July 22, 2011, Globalstar reply comments, at page 3.

ATC/AWS-5/TLPS conflict, but also the Broadband Radio Service (BRS) Channel 1 conflict.[20] In 2004 SBE proposed such a band re-farming, which is shown in the attached Figure 1. In its August 25, 2011, filing to ET Docket 10-142, Globalstar made a counter proposal, shown in the attached Figure 2. What is important is that this Globalstar filing constituted an acknowledgement, at long last, of the fundamental incompatibility between grandfathered TV BAS Channel A10 operations and MSS ATC operations. Adding AWS-5/TLPS only aggravates the problem.

3P. In the November 17, 2011, EIBASS comments to the related WC Docket 11-183 proceeding, the Globalstar counter proposal was noted. EIBASS indicated that it believed the Globalstar counter proposal had merit, and suggested that it be pursued, but has heard nothing further from either Globalstar or the Commission regarding a re-farming of the 2.5 GHz TV BAS band. EIBASS hopes these instant comments will create an impetus to get the band re-farming effort moving again.

III. Just What Is Globalstar Proposing?

4. It is unclear to EIBASS if Globalstar is proposing space-to-Earth downlinking to terrestrial mobile handsets, high-power terrestrial base stations communicating with terrestrial mobile handsets, low-power fixed or itinerant base stations communicating with mobile handsets, or other consumer premises equipment devices; or some combination of all four scenarios? Even low-power use would still represent a serious interference threat to grandfathered A10 operations, just as chronic interference is caused to licensed TV BAS operations on TV BAS Channels A8 (2,450–2,467 MHz) and A9 (2,467–2,483.5 MHz) by Part 15 "WiFi" users. Never mind that Section 15.5 of the FCC rules is clear enough that a Part 15 device is not allowed to cause interference to a licensed service, and must accept any interference from licensed services. Indeed, the lack of interfering WiFi signals at 2,483.5–2,500 MHz is a significant consideration for grandfathered A10 licensees to carefully preserve those grandfather rights.

5. Existing 1-watt TPO/4-watt EIRP Section 15.247 2.4 GHz Part 15 devices have a long history of causing chronic interference to TV BAS operations on Channel A8 and A9. In fact, this is so well known to the broadcast industry that itinerant broadcasters regularly request to use any 2 or 2.5 GHz TV BAS channel *except* Channel A8. For example, at the April 20, 2004, meeting of the 2 GHz *ad hoc* Committee at the Broadcast Engineering Conference (BEC) of the

[20] In the WT Docket 03-66 rulemaking the Commission created BRS Channel 1, at 2,496–2,502 MHz. This unfortunately created a second conflict with grandfathered TV BAS Channel A10 stations.

National Association of Broadcasters (NAB) convention in Las Vegas, the BAS frequency coordinator for the Phoenix, Arizona, market explained that Phoenix has four major electronic news gathering (ENG) receive sites: Shaw Butte, South Mountain, Usuary Pass and White Tanks. These four receive only (ENG RO) sites are north, south, east, and west of Phoenix, as shown by the attached Figure 3. The Phoenix coordinator explained that about every six months or so one of these four sites becomes unusable for Channel A8 and A9 operations because of the proliferation of 2.4 GHz WiFi devices at the ENG-RO site (most often for wireless local area networks, or WLANs). Of course, as a Part 15 device, WLANs are not permitted to cause interference to licensed TV BAS operations. To cure the problem, the ENG-RO site is visited, and the operators of the offending Part 15 devices are instructed to cease and desist their interference-causing operations. The Phoenix coordinator provided the analogy that these visits are like turning on the light in a cockroach-infested room: The 2.4 GHz Part 15 "cockroaches" scurry to get out of the light. But they inevitably come back, over time, and the process has to be repeated. EIBASS does not want to see this same problem, troublesome and costly to resolve, repeated in this proceeding by allowing TLPS at 2,483.5–2,495 MHz, as long as there are still grandfathered TV BAS Channel A10 operations on those frequencies.

6. The attached Figure 4 demonstrates the problem, which has become so much worse that many broadcasters have given up trying to use TV BAS Channels A8 or A9: It shows noise floor measurements taken on January 9, 2013, at the South Mountain ENG-RO site in Phoenix, AZ. The top spectrograph shows a good noise floor of about -85 dBm for the 2 GHz TV BAS band, and the bottom spectrograph shows degraded noise floors of about -74 dBm for TV BAS Channel A8 at 2,450–2,467 MHz and about -80 dBm for TV BAS Channel A9 at 2,467–2,483.5 MHz. Whereas grandfathered TV BAS Channel A10, which is uncontaminated by Part 15 WiFi devices, the noise floor is back to a “good” -85 dBm. These 50 MHz wide measurements were taken with an Anritsu spectrum analyzer in peak hold mode, with a 100 kHz resolution bandwidth, 30 kHz video bandwidth, and a five-minute capture time. Note the incoming TV BAS Channel A2 ENG signal seen on the left-hand side of the top spectrograph is only 8 dB above the noise floor. The ENG receiver at this site successfully received and decoded this high-definition signal with a “link quality”[21] of 6, meaning a low-level signal that most TV stations would use on-air if necessary. Because of Part 15 WiFi noise, it would not be possible to reliably decode this program feed at this low signal level on TV BAS Channels A8 or A9

[21] Link Quality is an arbitrary scale of 1-10, where 1 is a poor signal and 10 is an excellent signal. Link quality takes into consideration all the performance metrics associated with a digital ENG signal and gives a non-technical operator a scale to rate the incoming signal.

7. If the Commission proceeds to a Notice of Proposed Rulemaking, the NPRM should require Globalstar to give more details about its proposal, and address the issue of re-farming the 2.5 GHz TV BAS band, to eliminate the incompatible co-primary uses that now exists between grandfathered A10 ENG operations and S-band MSS ATC/AWS-5/TLPS, or whatever alphabet soup the new service(s) might end up using.

8. As evidenced by this instant filing, EIBASS has been diligent in its pursuit of the A10 issue in other rulemakings also impacting grandfathered TV BAS Channel A10. EIBASS will continue to do so until the only practical solution to the flawed idea that S-band MSS ATC/AWS-5/TLPS and *co-channel* grandfathered TV BAS Channel A10 can co-exist in the same area at the same time is recognized. The Commission needs to re-farm the 2.5 GHz TV BAS band, to eliminate that spectrum "train wreck" of co-channel operation. Once this is done, and sufficient protection is in the FCC rules[22] to protect BAS ENG receivers from new adjacent-band transmitters, EIBASS has no objections to the Commission allowing MSS ATC/AWS-5/TLPS at 2,483.5–2,495 MHz, as proposed by Globalstar.

IV. Summary

9. The allocations for MSS were done before cellular use exploded. It is now difficult to find areas where cellular coverage does not exist in some form.[23] The approach of converting MSS to terrestrial based cellular by adding a significant number of ATC/AWS-5/TLPS base stations stacks the deck in favor of MSS in at least two ways: It gives the MSS operator the economic

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[22] Section 27.1133 is in Subpart L (1.7, 2.1 and 2.2 GHz Bands services) of the Part 27 Miscellaneous Wireless Communication Services rules, and reads as follows:
§27.1133 Protection of Part 74 and Part 78 operations. AWS operators must protect previously licensed Broadcast Auxiliary Service (BAS) or Cable Television Radio Service (CARS) operations in the adjacent 2025-2110 MHz band. In satisfying this requirement AWS licensees must, before constructing and operating any base or fixed station, determine the location and licensee of all BAS or CARS stations authorized in their area of operation, and coordinate their planned stations with those licensees. In the event that mutually satisfactory coordination agreements cannot be reached, licensees may seek the assistance of the Commission, and the Commission may, at its discretion, impose requirements on one or both parties.

[23] For example, the most recent (December, 2010) Cellular Telecommunications Industry Association (CTIA) *Semi-annual Telephone Wireless Survey* shows that the number of terrestrial cell sites has gone from slightly over ten thousand in 1992 to more than two-hundred-fifty thousand in 2010. The *Wireless Quick Facts* portion of the CTIA web site shows that 96% of the U.S. population has access to some form of terrestrial CMRS.

Additionally, in the February 4, 2008, WT Docket 07-71 Twelfth Report, the Commission found that 99.8% of the total U.S. population have one or more different CMRS operators, that 99.3% of the U.S. population living in rural counties have access to one or more CMRS providers, and that more than 95% of the U.S. population lives in areas with at least three competing CMRS providers (Twelfth Report, at the page 5 Executive Summary).

advantage of building a terrestrial cellular network without having paid anything in spectrum auction fees, and creates a fundamental and serious interference potential to TV Channel A10 BAS operations. BAS use has skyrocketed in a manner not conceived by the Commission or incumbent users when those original allocations were made. EIBASS believes that should S-band MSS ATC/AWS-5/TLPS be allowed without first clearing the band of incumbent BAS users, the use of grandfathered A10 would have to effectively cease, making a mockery of the grandfather rights.

V. List of Figures

10. The following figures or exhibits have been prepared as a part of these RM-11685 comments:

1. Existing 2.5 GHz TV BAS band vs. SBE proposal for re-farming the 2.5 GHz TV BAS band
2. Existing 2.5 GHz TV BAS band vs. Globalstar proposal for re-farming the 2.5 GHz TV BAS band
3. Map showing the four major Phoenix, AZ, ENG-RO sites
4. Comparison of noise floors between the 2 and 2.5 GHz TV BAS bands.

Respectfully submitted,

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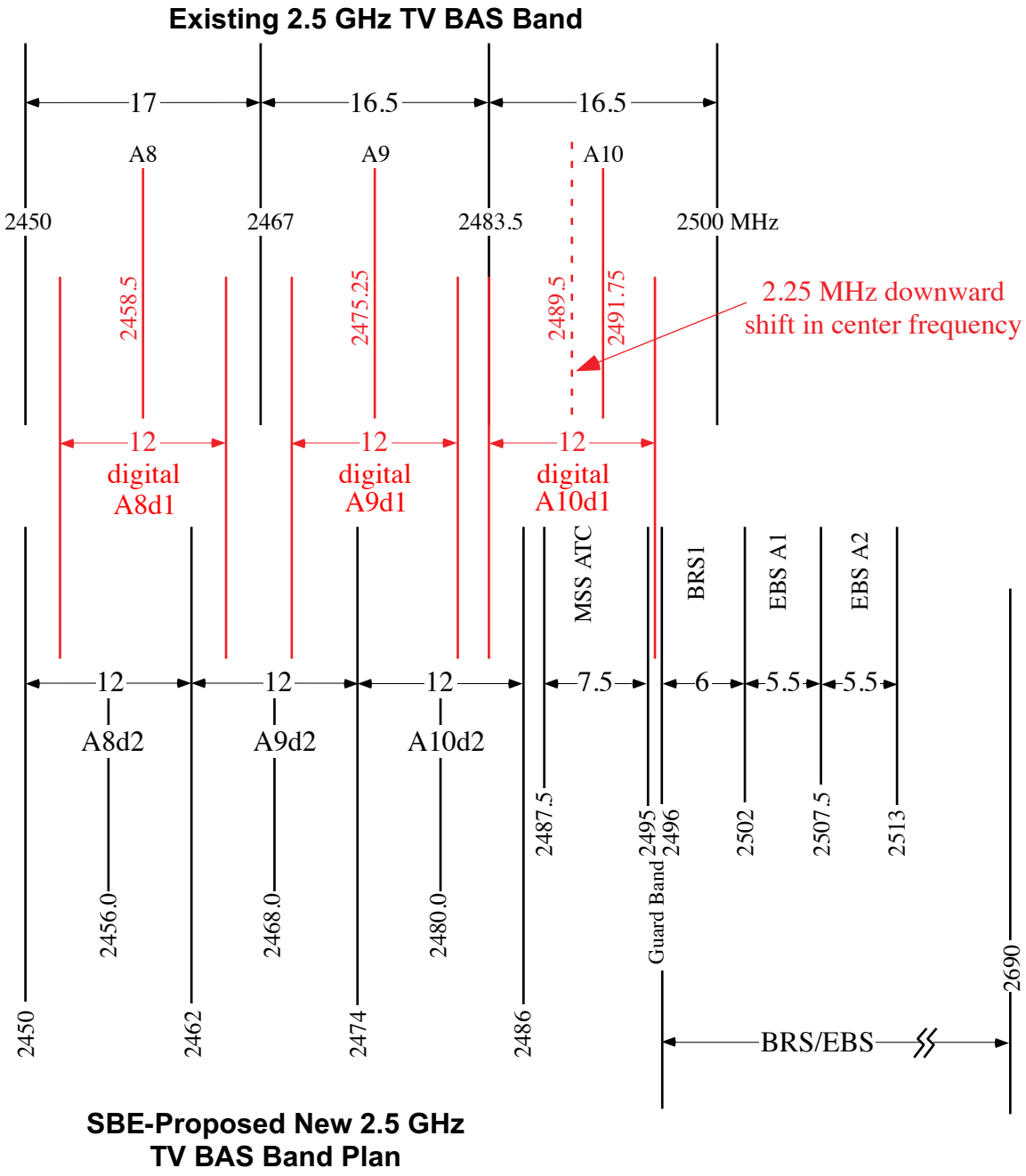
EIBASS Comments to RM-11685: Globalstar Petition for Rulemaking for Advanced Wireless Services 5/Terrestrial Low-Power Service (AWS-5/TLPS)

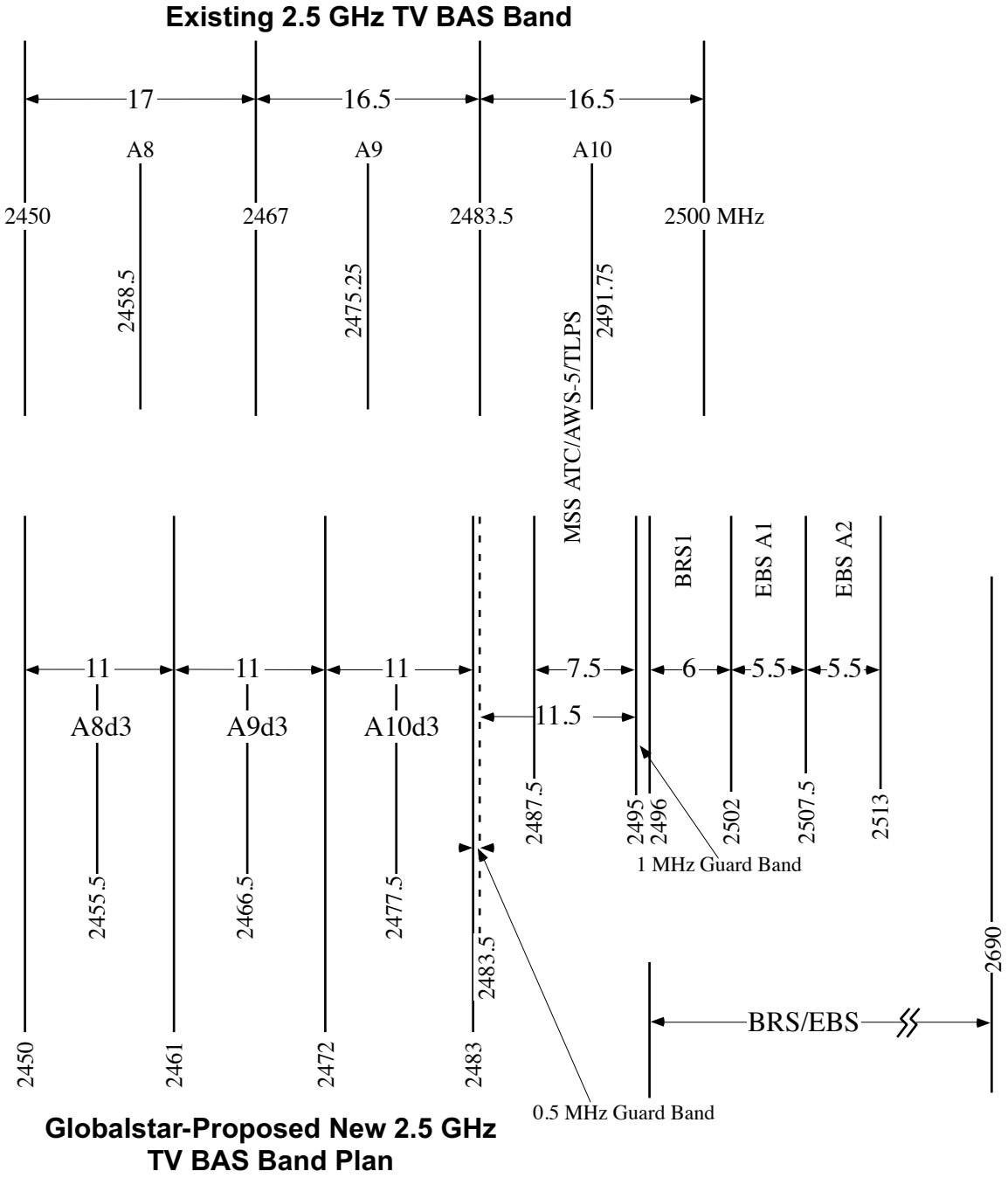
Existing vs SBE-Proposed New 2.5 GHz TV BAS Band Plan



All frequencies and bandwidths are in MHz.

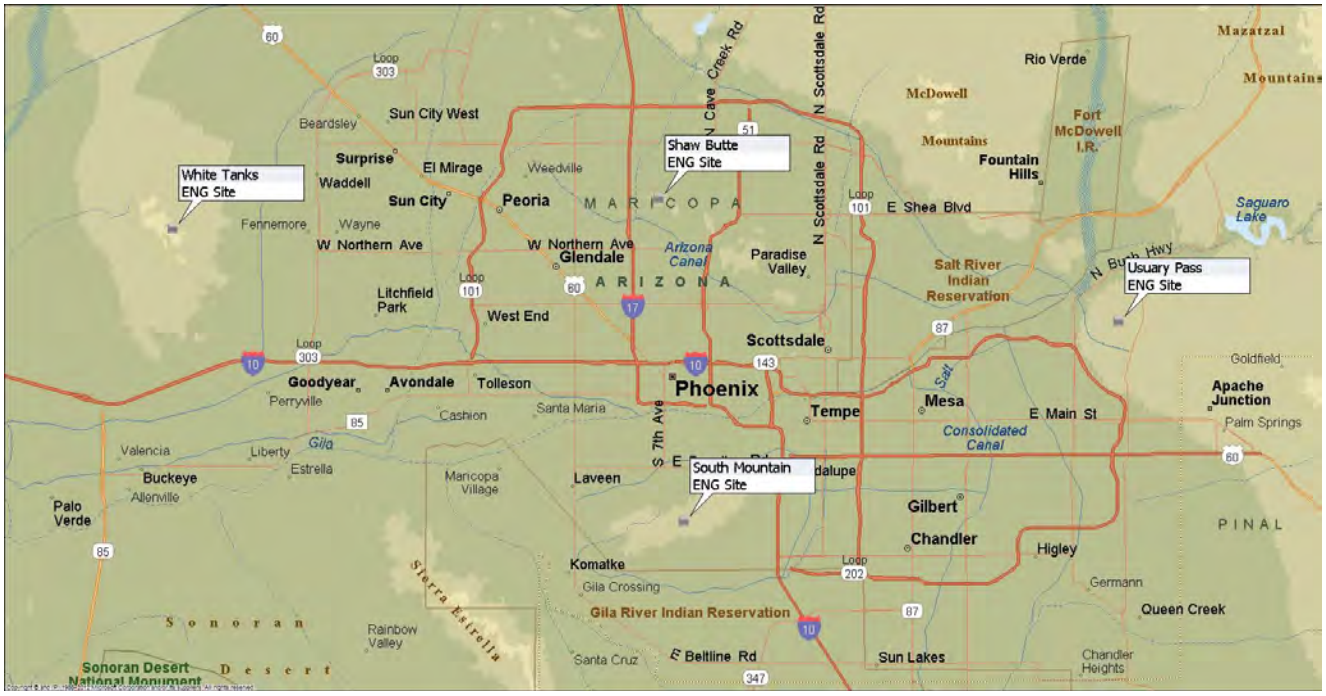
EIBASS Comments to RM-11685: Globalstar Petition for Rulemaking for Advanced Wireless Services 5/Terrestrial Low-Power Service (AWS-5/TLPS)

Existing vs Globalstar-Proposed New 2.5 GHz TV BAS Band Plan



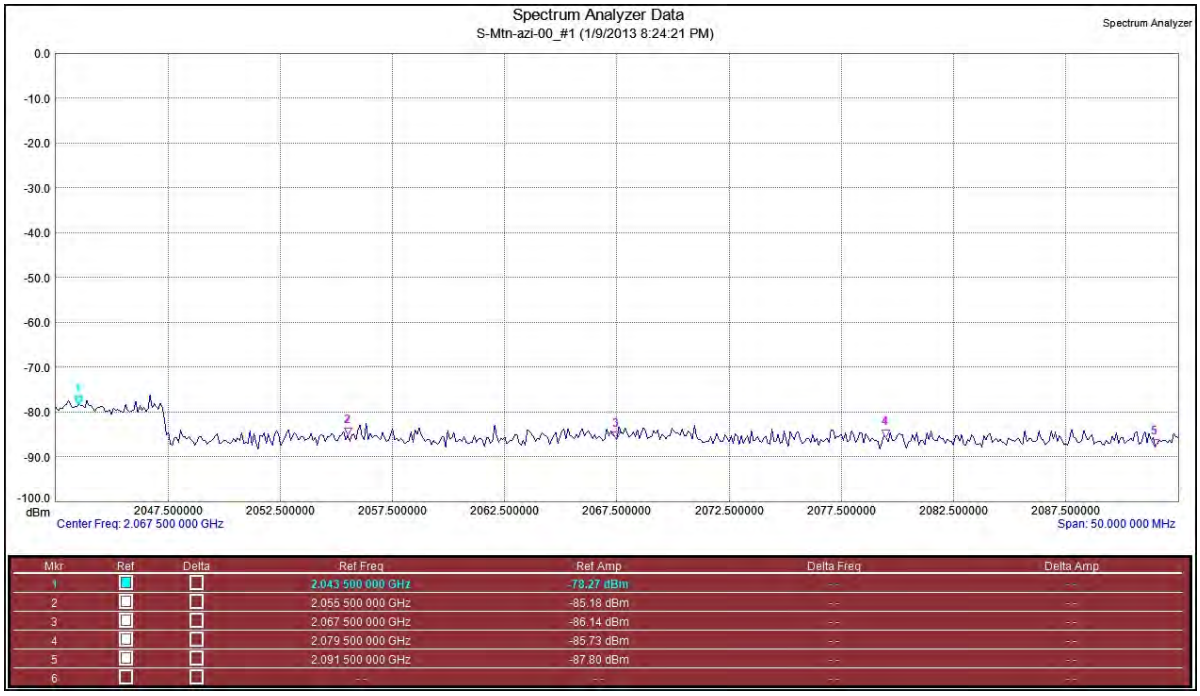
All frequencies and bandwidths are in MHz.

Phoenix Area ENG Receive-Only Sites

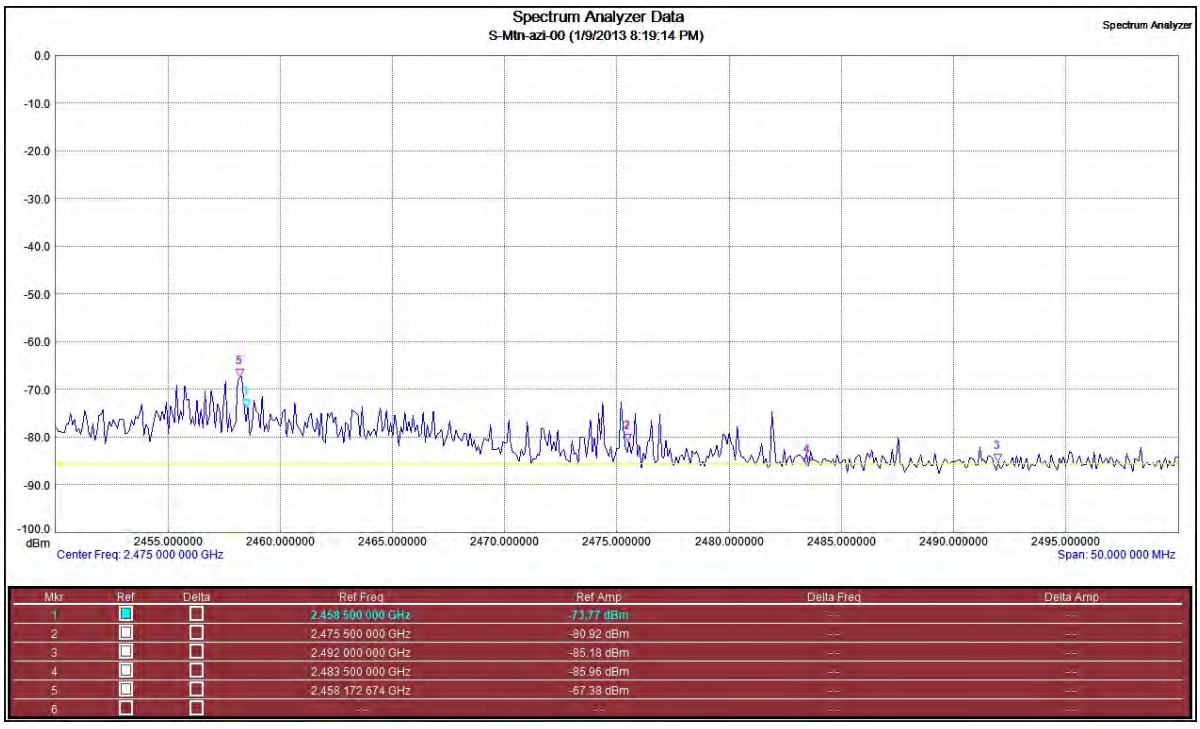


The four major ENG-RO sites for Phoenix: Shaw Butte, South Mountain, Usuary Pass and White Tanks.

Observed South Mountain Noise Floors at 2 vs 2.5 GHz



The noise floor of the 2 GHz TV BAS band is about -85 dBm across the entire band. An active ENG signal about 8 dB above the noise floor is present on TV BAS Channel A2.



The noise floor of 2.5 GHz TV BAS is about -74 dBm for TV BAS Channel A8, about -80 dBm for TV BAS Channel A9, and about -85 dBm for grandfathered TV BAS Channel A10.